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IRRUPTION OF THE WHITE-WINGED BLACK TERN INTO THE SOUTH-WEST, 1956

[Editor's note: The White-winged Black Tern (*Chlidonias leucoptera*) is a Palaearctic species which during its post-nuptial dispersion occasionally reaches Australia. An extensive invasion into the South-West of this State took place in March-April, 1917 (reported in detail by W. B. Alexander, *The Emu*, vol. 17, 1917, p. 95), and lesser numbers appeared in April-May in the following year (Alexander, *The Emu*, vol. 18, 1918, p. 134). A report of a supposed occurrence in June, 1919 (T. Carter, *Ibis*, 1920, p. 693) was later withdrawn by the author. The species was not subsequently observed in Western Australia until October, 1945, when a large flock was noted at sea 20 miles S.W. of Broome (D. L. Serventy, *W.A. Naturalist*, vol. 1, 1947, p. 68). A review of the Australian and New Zealand irruptions of the species has been given by L. Amiet, *The Emu*, vol. 56, 1956, p. 95, but the Broome occurrence of 1945 was overlooked.

In March, 1956, the White-winged Black Tern invaded the South-West in strength, for the first time since 1918. A preliminary reference to the occurrence was given by J. Gentilli (*W.A. Naturalist*, vol. 5, 1956, pp. 84-85), who also discussed the meteorological backgrounds of both this and of the previous invasions (see also pp. 133-137. Observers' reports on the March, 1956, events are given below.)

I

In consequence of a press report (*West Australian*, March 6) that at Mandurah "thousands of seabirds of at least ten strange varieties have been blown ashore by the cyclone," the Director of the W.A. Museum (Mr. L. Glauert) despatched me to investigate. On the same day, March 6, accompanied by Mr. W. H. Butler, I made a reconnaissance of the area. We visited the Naval Base, Shoalwater Bay and Warnboro Sound but saw no terns there. The first of the White-winged Black Terns were met with in the open country east of Rockingham, at the 26 miles peg, where isolated individuals were flying over the sandhills. At the north end of Lake Walyungup (11.30 a.m.) there were about 150 birds. There were isolated individuals at Mandurah north of the traffic bridge, but most of the terns were noted over the samphire flats, about 400 being seen. There were none over the open waters of Peel Inlet. On the return they were still present at Mandurah (2.30 p.m.). None were noticed at Waikiki Beach.

That evening we inspected reaches of the Swan River at Bayswater where about 50 birds were seen, and others (15-20) also at West Midland near paper-bark swamps.

On March 7 we visited the Swan River west of Midland and found the terns at the Garratt Road bridge, Bayswater (ea. 150 birds at 11 a.m.) and at the Causeway (ea. 70 over the reclamation area). We visited the estuary at Attadale but saw none there. A run past the lakes south of Fremantle gave the following census: North Lake (11.45 a.m., ea. 200 birds); Bibra Lake, east side (scattered individuals); Yangebup Lakes (scattered individuals); Banjup Lake (none); Jandakot Lake (none); Jilbup Lake (none); Lake Coo loongup (2 p.m., isolated birds); Lake Walyungup (ea. 50); Mandurah (2.30 p.m., less than on the previous day). We travelled along the coast road but saw no birds on the Harvey Estuary or on Lakes Clifton and Preston. None were reported from swamps south of Mandurah, and Mr. A. H. Robinson observed none at the Coolup swamps.

On the return we waited at Lake Coo loongup at dusk, until 8 p.m. and watched the terns assembling there for the night. They were arriving in groups of about 20 until there were many hundreds present. Birds were resting on the little islets projecting out of the water, and took to the air on our approach.

Lake Coo loongup was visited again on March 12, and the birds were still present, coming in to roost that evening. They had completely evacuated the Bayswater area on March 13.

The birds were very wary and difficult to approach as they hawked over the rush beds and adjoining flats. However, we managed to obtain three specimens for the museum: (a) Lake Coo loongup, no. A7805, ♀, beak, 22 mm.; wing, 206 mm.; tail, 69; tarsus, 19. (b) Lake Coo loongup, no. A7806, sex ?, weight, 60 gm.; length, 237 mm.; beak, 25; wing, 206; tail, 74; tarsus, 20. (c) Mandurah, no. A7807, ♀, beak, 26 mm.; wing, 217; tail, 71; tarsus, 19. All the birds were in immature plumage, with grey backs and white under-parts. Specimen (a), however, had some black feathers on the mantle and scapulars and black axillaries and sides of body. The axillaries in (c) were less extensively black, and in (b) they were white. The tail was pale grey in (a), dark grey in (b) and almost white in (c). The wing and tail quills in each specimen were fresh. The feet were reddish-brown and the bills black, with, in (c), a reddish tinge in life. Most of the birds seen resembled specimens (a) and (c), though one individual in apparently fully mature plumage, with contrasting black and white, was seen at Mandurah. However, it was a long way off and close inspection was not possible.

We saw no dead birds, victims of the storm, as was the case with the Fork-tailed Swifts (*Micropus pacificus*), which were lying dead on the beaches at Mandurah in scores.

—A. M. DOUGLAS, W.A. Museum, Perth.

II

I first learnt of the appearance of the White-winged Black Terns when my brother, W. C. Ford, observed several immature individuals at Hamilton Hill at 4.30 p.m. on March 4. They were travelling with the wind, under no apparent signs of distress, about 50 feet from the ground. On the following day I visited the lakes south of Fremantle and made the following census: Coolbellup Lake, ca. 1,000 birds; Bibra Lake, ca. 100; Yangebup Lake, ca. 500; Jilbup Lake, ca. 100; Jandakot Lake, none; Cooloongup Lake, hundreds; no accurate count possible but here was seen the greatest number; Walyungup Lake, 400-500; Mandurah, ca. 700, mainly over the samphire flats; Banjup Lake, ca. 85; Koojee Lake, ca. 60; Mongers Lake, ca. 75; and Herdsmans Lake, at least 100-200. They were present right along the south shore of the Swan River, from Lucky Bay eastwards to the Garratt Road bridge, and their numbers must have totalled a few hundreds. I also received a report that they were present in numbers on Lake Pinjar, about 20 miles north of Perth.

On March 10 I made another survey and observed 70-80 terns at Coolbellup Lake, ca. 20 at Bibra Lake, ca. 100 at Yangebup Lake and a few at Jilbup Lake. There were none at the following waters which I visited: Bibra Lake, Jandakot Lake, Koojee Lake, and most of the small swamps south of Fremantle. By March 18 the majority of the terns had left the district; I saw only a few at Lake Yangebup, 7 at Coolbellup Lake, and there were none at Bibra, Jilbup and Jandakot Lakes. On March 25 I saw one individual on Bibra Lake. On March 26 two were here, and none on Cooloongup and Walyungup Lakes. There was still one on Bibra Lake on March 30, where I also saw one on April 6—my latest record for the species.

Apparently the terns were constantly shifting from one swamp to another, since my counts on certain lakes showed great fluctuations. The birds often fed over completely dry land. Over water none were seen to dive for food but would hover several feet above the water, with their tails spread out fanwise, and then dart down and pick up food from the surface. Their hovering ability was in marked contrast to that of other marsh-frequenting terns.

All the birds seen were in non-breeding plumage, generally greyish in colour. I did not observe any birds with black underparts, except that some individuals, but not all, had black wing linings. The outstanding field characteristic was the extremely varied colouring of the head and back. Most birds had varying amounts of black mottling about the head and many had a speckled appearance on the back. Gaps in the wing near the inner primaries indicated moult. A dead bird was found at Coolbellup Lake on March 10; it had white under-parts except for the black axillaries, head mottled black except for a broad white forehead, white collar, remainder of upper-parts and wings grey, tail white; beak, black with a reddish tinge; legs, reddish brown.

—JULIAN R. FORD, Fremantle.

III

I first saw the White-winged Black Terns at Safety Bay on March 4, the day the cyclone crossed the coast. At 5 p.m. I saw about 20 terns flying in a southerly direction, accompanied by Fork-tailed Swifts. At first I thought they were Marsh Terns (*Chlidonias hybrida*), but the unusual plumage and different fluttering flight arrested attention.

I next saw the birds at North Lake on March 6 at 4.15 p.m. About 40 were feeding over the lake, flying at about 8-10 feet, and dipping suddenly to the water. Birds were also perched on the reeds and some were sitting on the water. Later the same day, between Kwinana and Mandurah, a number of birds were seen feeding over the low scrub. The nearest water was half a mile away and separated by high scrub-covered sandhills. One bird was seen to catch a large green grasshopper. At Mandurah the birds were feeding over the samphire flats at the mouth of the estuary, the largest number being north of the mouth. When feeding the birds would drop with wings extended and keep them open while on the ground. The peculiar fluttering motion of the birds was noted during all the observations.

All the birds seen were in similar plumage, the only variation being slightly differing amounts of black on the head. A photograph of a bird taken at Mandurah clearly showed wing moult in progress—the fourth outermost primary was not yet full-grown.

—ERIC LINDGREN, Nedlands.

IV

On March 4 I was in the Lancelin Bay area. At 9 a.m., when driving over a wet marshy flat, about 6-7 miles south of the Lancelin Bay settlement, and about 2-3 miles inland, I saw a flock of 30-40 terns. They were of a species strange to me at the time. The birds were flying around in circles and in no definite direction.

—P. J. FULLER, West Perth.

V

Food of the White-winged Terns.—The stomach contents of one of the terns, a female (W.A. Museum, no. A7807) which was collected by A. Douglas at Mandurah on March 6 was submitted to me for examination of the food items. The bird had been taken whilst hawking over rushes in a fresh-water swamp. Its stomach contents were found to consist entirely of terrestrial arthropods, which were identified as follows:—

INSECTA	No.	Dry wt.
Odonata: <i>Diplacodes bipunctata</i> (Br.)	3 ♂	56.2 mg.
Orthoptera: Fam. Tettigoniidae	4 wings, leg fragments	} 52.5 mg.
" —	14 mandibles & many leg fragments	

ARANEAE

Fam. Epeiridae: <i>Araneus brounii</i> (Urq.)	1	} 79 mg.
" —	1	
" <i>Argiope</i> sp.?	4 fragments	
Fam. Tetragnathidae:	9 and fragments	

FRAGMENTS

Chitinous material 74 mg.

The food was largely broken down, and although the dragonflies and some of the spiders were in fair condition the rest of the material was fragmentary. The dry weights were taken after drying in an oven and then exposed to atmospheric conditions for 5 hours. The spider material was determined by Dr. B. Y. Main.

—J. A. L. WATSON, Zoology Department, University of Western Australia.

HERPETOLOGICAL MISCELLANEA

By L. GLAUERT, W.A. Museum, Perth

VIII.—SNAKE LIZARDS AND WORM LIZARDS (FAMILY PYGOPODIDAE)*

Body much elongated, snake-like, fore limbs entirely absent externally, hind limbs much reduced, in *Aprasia* hardly visible. Head covered with regular shields except in *Lialis*. Abdominal scales often transversely enlarged but never extending right across the body as in snakes. Tail when normal, except in *Aprasia*, much longer than the head and body, fragile and easily replaced. Ear visible except in *Aprasia*.

KEY TO THE GENERA

- a.—Head covered with large shields.
 - b.—Preanal pores present.
 - c.—10-14 preanal pores, frontal longer than the prefrontal *Pygopus*
 - ce.—4 preanal pores, frontal much smaller than the prefrontal *Paradelma*
 - bb.—Preanal pores absent.
 - d.—Parietals present large.
 - e.—Body scales smooth *Delma*
 - ee.—Body scales with two keels *Pletholax*
 - dd.—Parietals absent..... *Aprasia*
- aa.—Head covered with small scales *Lialis*

GENUS *Pygopus*

Snout rounded, head covered with large symmetrical shields; frontal much larger than the prefrontal. Ear-opening exposed. Scales hexagonal, overlapping, two central series on the abdomen

* No. VI of this series, Geckonidae (Part II), appeared on p. 49. No. VII, on *Egernia striolata douglasi*, appeared on p. 117.